National Park Service

Visitor and Resource Protection

Education and Training Needs Assessment

Executive Summary

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National Park Service

Visitor and Resource Protection

Education and Training Needs Assessment

Introduction

In an effort to evaluate and monitor organizational learning, the National Park Service (NPS) has periodically assessed its various occupational specialties by examining the education and training needs of its employees in accordance with recognized best practices. Typically, this has been accomplished by analyzing the competencies important to successfully addressing specific job duties, then assessing how well prepared employees are in fulfilling those duties. These efforts have produced the additional value of having employees examine the competencies needed in a changing organization under constantly evolving societal, environmental, fiscal, political, etc., conditions. Subject matter experts (SMEs) reviewed and updated (and sometimes developed for the first time) the competencies needed to perform at the highest levels.

The Training Manager for Visitor and Resource Protection (VRP), within the NPS Office of Learning and Development, in collaboration with Clemson University, completed an assessment of training and education of employees throughout the NPS who have responsibilities in the area of VRP. It is important to note that this is the first comprehensive training needs assessment done for all the career disciplines within the branch of Visitor and Resource Protection. VRP is a major National Park Service occupational branch and therefore, this endeavor was a large undertaking.

The intention of defining technical competencies for all career disciplines within VRP was to have a menu of options to apply to the unique circumstance within each park unit and each job responsibility. This allows the employee, supervisor, and manager to target the competencies applicable to their situation. The needs assessment clarifies the most important training gaps and assists managers on where to spend precious funding and other resources for employee development.

Background

In January of 2012, a team began a process of identifying technical competencies for all occupations within the Visitor and Resource Protection (VRP) career field. These professionals were the primary advisors to the training manager responsible for VRP employee development. The VRP Training Manager, Demica Vigil, and her advisors began to assemble a group of subject matter experts (SMEs) representing the various career occupations within VRP: law enforcement, emergency services, wilderness management, wildland fire and aviation, structural fire, special park uses, regulations, employee risk management, and public health. The team also had NPS representatives from the three sister training centers, namely the Federal Law Enforcement Training Center (FLETC), National Interagency Fire Center (NIFC), and the Arthur Carhart National Wilderness Training Center (Carhart).

In May of 2012, a collection of subject matter experts from across the National Park Service joined professionals from the Stephen T. Mather Training Center and Clemson University to assemble comprehensive technical competencies describing what is required to successfully perform the variety of jobs within the VRP ranks. Over the next year these SMEs and advisors condensed and refined the comprehensive list resulting in the focused survey questions within the VRP Needs Assessment. This produced a more manageable list of competencies to be used in the survey.

The VRP Needs Assessment was addressed to Visitor and Resource Protection employees within the NPS and was conducted from September 3, 2013 to October 2, 2013. An online survey instrument was sent to all 3,150 NPS employees identified in the NPS human resource database (FPPS) or as requested by individuals having VRP duties. It included a list of 87 specific technical competency items depicting various aspects of being a professional Visitor and Resource Protection employee (the survey consisted of a total of 135 questions, including open-ended and demographic questions).

Methods

Study Purpose

The purpose of this study was to:

    (a) Establish baseline competencies to perform satisfactorily at various levels within the organization;

    (b) Assess the importance of these competencies to the performance of each employee, given their present position;

    (c) Assess the level of preparedness of employees to perform these competencies; and,

    (d) Determine the gaps existing between the importance assigned to, and perceived preparation to perform, each competency.

This produced a diagnostic measure from which to prioritize the development of content and delivery of training and education platforms.

Research Design

This study is unique in that it was designed as a census of the entire population of VRP employees within the NPS, rather than a study of a "sample" of VRP employees. A cover letter and online survey instrument was sent to all identified 3,150 NPS employees with VRP duties in the fall of 2013.

Competency Development

Over a period of 18 months beginning in May, 2012, a team of VRP subject matter experts developed a three-level framework from which to analyze VRP competencies[1]. As can be seen in Figure 1, there are three cascading levels of competencies, ranging from broad to specific. These start with the overarching *Essential Core Competencies* which require a basic awareness level of knowledge by all VRP employees. Next, the competencies were grouped into components within each core competency or what are referred to as *Sub-Core Competencies*. These may be particular to a park or specific job duty. The third level is the listing of all specific

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[1] A comprehensive framework of over 1,000 technical competencies was initially developed by SMEs. The graphic describing this framework is included as Appendix A. The three-level framework of VRP competencies used in this study was drawn from this.

Technical Competencies, which break down into detailed knowledge, skills, abilities or behaviors which define successful performance; again, these are often particular to a park unit and specific job responsibility. Appendix A shows the full scope of the comprehensive list of Core, Sub-Core, and Technical competencies originally defined by the SMEs.

Essential Core
Competencies (9)

Sub-Core Competencies defined
under each Core Competency (15)

Technical Competencies (87)
(Knowledge, skills, abilities and behaviors)
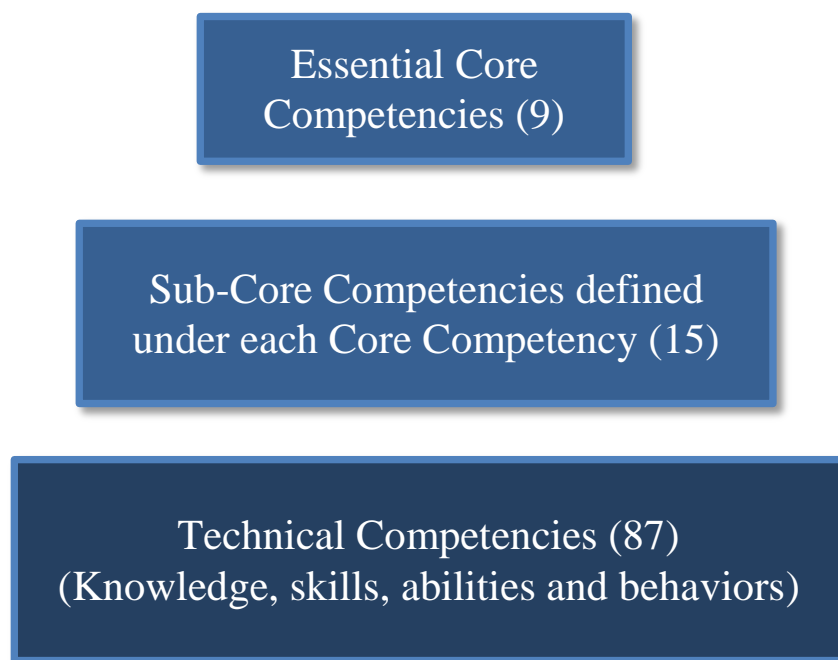
Figure 1. Three-Level Competency Framework for Visitor and Resource Protection

Essential Core Competencies

In total, nine (9) core competencies were identified. They were:

- Law Enforcement
- Resource Protection
- Emergency Management
- Visitor and Employee Health and Safety
- Leadership
- Visitor Service and Public Use Management
- Project/Program Management
- Wildland Fire and Aviation Management
- Structural Fire

The *essential core competencies* were adopted as baseline requirements for all VRP employees at a minimum of an awareness proficiency level. The Comprehensive List of VRP Competencies and SMEs involved in their development are provided in Appendices A and C. These competencies serve as the basis for employee development and describe an effective and successful employee in the VRP career field within the National Park Service.

NOTE: *The "fee collection occupation field" was originally viewed as part of VRP under the Visitor Service and Public Use Management core competency. Upon further review by fee collection SMEs, there was a distinction made between official policy direction and park operations. Policy direction comes out of the WASO Business Services Directorate; however, many, but not all fee collectors are organizationally supervised by VRP personnel. The Fee Collection SMEs requested the alignment of fee collection to follow the WASO Business Services Directorate and therefore these competencies were removed from this VRP needs assessment effort.*

Sub-Core Competencies

Since training for three of the nine core competencies is the responsibility of sister training agencies (FLETC, NIFC, and Carhart), technical competencies aggregated under these core competencies were not included in this assessment. From the six remaining *essential core competencies*, SMEs identified a framework of 15 *sub-core competencies* (see Fig. 1). They were:

- Natural and Cultural Resource Protection
- Backcountry Management
- Incident Management
- Emergency Medical Services
- Search and Rescue
- Emergency Communications and Dispatching
- Public Health
- Visitor Safety
- Employee Safety
- Employee Health and Wellness
- Leadership
- Special Park Use Management
- NPS Regulations
- Project Management
- Use and Management of Technology

Technical Competencies

From these 15 sub-core competencies, 87 *technical competencies* (knowledge, skills, abilities or behaviors) were systematically honed by SMEs so that questions could be developed and compiled to use in the online survey instrument. This honing process used a series of competency filters to focus the survey questions thereby creating a more succinct instrument.

Instrument Development

Using the list of competencies developed by the SMEs, an online survey instrument was developed by researchers at Clemson University, in collaboration with the VRP training manager. Four different beta-tests of the survey were conducted. Kim Watson, a former National Park Service employee and Advisory Committee member, ran the first full length instrument beta test. A dual beta test was then undertaken analyzing two different survey formats; these were completed by Molly Russell, Cultural Resource Stewardship and John Bryant, Employee Development Officer. After reaching consensus on the best format, the revised instrument was tested by 10 students in a Pro-ranger program in San Antonio, Texas, and

two instructors in Flagstaff at the Northern Arizona University Park Ranger Training Program (PRTP). After final modifications, which included the addition of "skip" features, the instrument was tested by 11 members and affiliates of the Visitor and Resource Protection Advisory Committee. During the development and testing period, the VRP training manager and Clemson partners briefed the Associate Director as well as the National Ranger Council. See Appendix C for a list of beta test participants.

The final instrument included 18 different batteries of questions, including an overall assessment of the importance of the nine (9) core competencies, an in-depth assessment of the fifteen (15) sub-core competencies, and specific assessment of eighty-seven (87) technical competencies. In order to reduce respondent fatigue and improve response rates, "skip" features were utilized in the survey instrument that allowed participants to concentrate *only* on those competencies that they deemed to be highly important to their current positions.

Data Collection

The survey targeted the *entire population of employees* with VRP duties, estimated to be a minimum of 1,500 commissioned rangers and an unknown number of employees with non-law enforcement VRP duties. Employees at the Mather Training Center assembled the master list of names by using the NPS Human Resource database (FPPS). The list excluded US Park Police and fee collection personnel. On September 3, 2013, a cover letter from the Associate Director of Visitor and Resource Protection was electronically distributed to **3,150 VRP employees**, containing a unique weblink accessing the survey instrument. The cover letter and survey instrument can be found in Appendices D and E.

On September 25, 2013, a second memo was sent to VRP employees reminding them of the importance of completing the survey and extending the due date. On October 2, 2013, the data collection associated with this study was closed.

NOTE: *The period of data collection was extended beyond the normal 30-day period due to numerous VRP employees being involved with emergency incidents (the Rim Fire in Yosemite or the massive flooding in northern Colorado). Additionally, the federal government shutdown occurred at the very end of the data collection period and many VRP employees were involved with the preparation and execution of the shutdown.*

Upon receiving the preliminary results of the VRP training needs assessment, a series of four "ground-truthing" sessions were conducted to look at the data/findings that might need further explanation and refinement when translating results into the final report. These group sessions were held on December 3, 4, 6 and 10, 2013.

Response Rate

At the conclusion of data collection, a total of 1,092 respondents returned instruments with usable data. This resulted in a very strong **effective response rate of 36.4%** (N = 3,150). Put simply, slightly more than one-third of all visitor and resource protection personnel in the NPS responded to the survey, resulting in high confidence in data validity.

Data Analyses

Data were analyzed utilizing IBM SPSS Statistics 20, the Statistical Package for Social Sciences. Frequency distributions and statistics were reported in aggregate for all variables. The preponderance of tables included in this report focus on assessing (a) the importance of selected competencies, (b) the perceived level of preparedness to perform each competency, and (c) the "gap" between the two. "Gap" statistics were calculated and reported <u>for each individual</u> utilizing the formula (Preparedness – Importance). From those individual statistics, a mean gap score was calculated and reported. In addition, data were segmented and compared between managers and front-line employees.

Results

Description of Study Participants

As can be seen in Figures 2 and 3, study participants were well educated and somewhat evenly distributed across the age spectrum. Roughly seven (7) of every ten (10) employees had a bachelor's degree. Moreover, 92 percent of the respondents had at least an Associate's degree. The average age of a VRP employee is approximately 42 years old, but the range of ages is evenly distributed between the ages 30 and 54.

Distribution of Respondents by Education Level
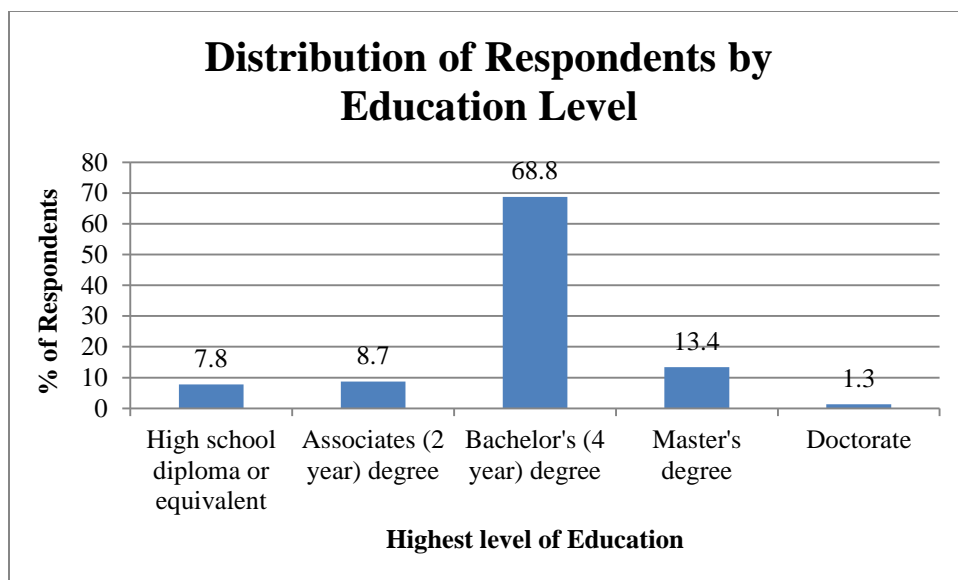
Figure 2. The distribution of respondents by education level.

Distribution of Respondents by Age
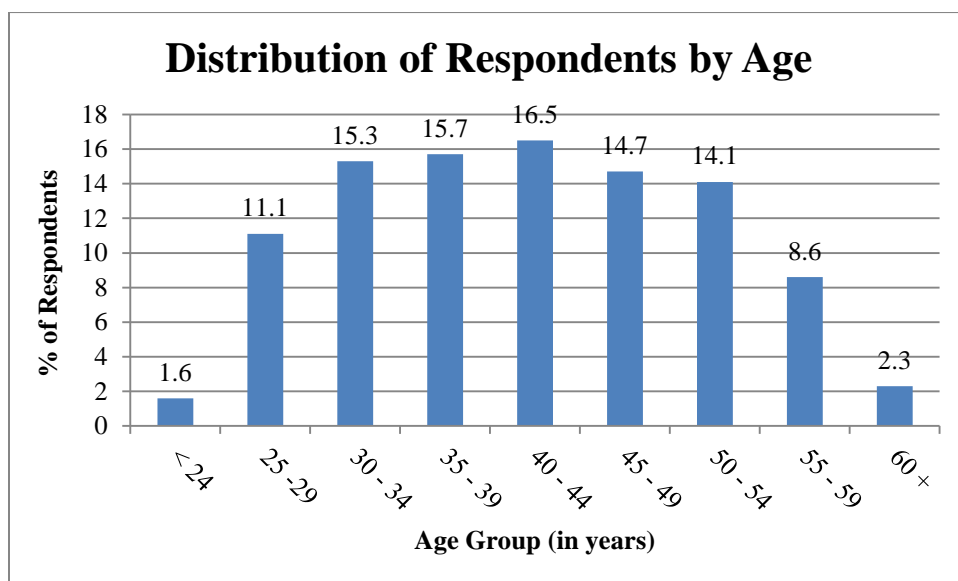
Figure 3. The distribution of respondents by age.

The overwhelming majority of respondents (80.5%) held positions classified in the GS-0025 series (Table 1). However, eight (8) other personnel series were reported, but in much smaller numbers (≤5%).

Table 1. Segmentation of VRP Population by Position Series	
Position Series	**% of Respondents**
0025	80.5
0401	5.1
0462	3.3
1811	2.7
0303	1.4
0301	1.3
0081	0.8
0018	0.3
1101	0.3

The largest number of respondents reported being in a position classified as GS/GL-9 (Figure 4). Sixty-three percent of respondents were in the level 7-11 range. Respondents have been employed by the National Park Service for slightly over 14 years, and served in a VRP capacity for almost the entire time (mean = 13.7 years). They have been in their current position for 6.5 years (Table 2).
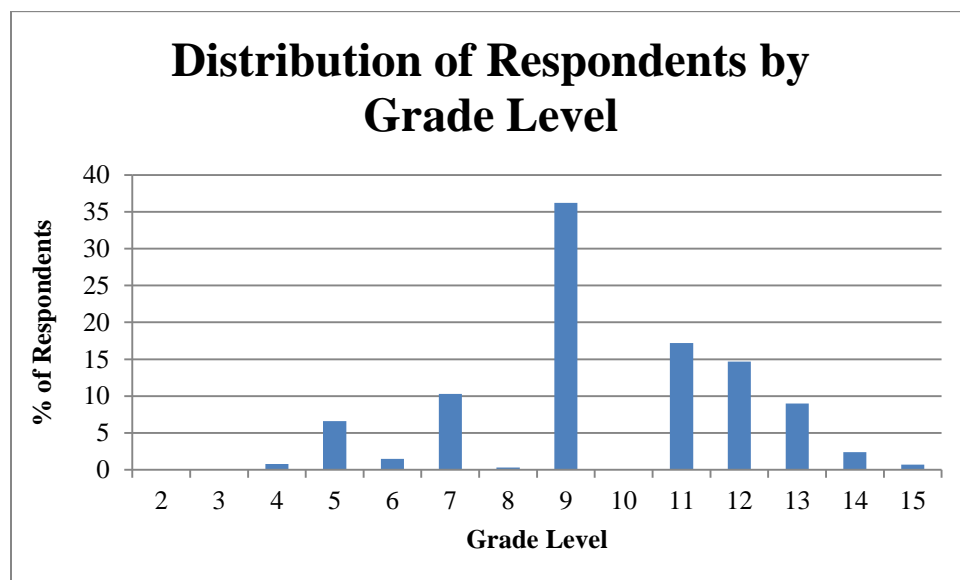
Figure 4. The distribution of respondents by grade level.

Table 2. Employment History of Study Respondents					
	N	Minimum	Maximum	Mean	Std. Deviation
Grade Level (Current GS, GL Level)	912	2	15	9.73	2.38
Number of years served in the National Park Service	894	0	40	14.05	9.08
Number of years you have worked in the Visitor and Resource Protection profession	888	0	43	13.69	8.94
Number of years served in your current position	887	0	33	6.45	5.65

Perceptions of Importance Assigned to the Nine (9) Essential Core Competencies in Visitor and Resource Protection

In Table 3, the distribution of responses depicting the importance of each core competency is shown. They are ranked in a descending order of mean importance in Figure 5.

Table 3. Perceptions of Importance of Core Competencies Among Visitor and Resource Protection Employees (All Respondents)									
Visitor and Resource Protection Importance	**1**	**2**	**3**	**4**	**5**	**6**	**7**	*Mean (7=Extremely Important, 1=Unimportant)*	*Standard Deviation*
(i1) How important is <u>Law Enforcement</u> to your current position?	2.1	4.2	5.6	6.0	6.2	10.7	65.2	**6.03**	**1.63**
(i3) How important is <u>Resource Protection</u> to your current position?	0.7	2.0	3.1	6.1	10.5	16.9	60.6	**6.17**	**1.31**
(i5) How important is <u>Emergency Management</u> to your current position?	0.7	3.7	4.6	7.5	14.0	20.3	49.2	**5.88**	**1.45**
(i7) How important is <u>Visitor and Employee Health and Safety</u> to your current position?	0.9	3.0	4.7	9.2	16.5	19.4	46.3	**5.81**	**1.45**
(i9) How important is <u>Leadership</u> to your current position?	1.7	2.2	3.7	5.3	12.9	19.1	55.0	**6.03**	**1.42**
(i11) How important is <u>Visitor Service and Public Use Management</u> to your current position?	1.7	4.5	8.6	13.2	19.8	21.5	30.7	**5.32**	**1.58**
(i13) How important is <u>Project/Program Management</u> to your current position?	5.5	7.7	10.2	16.5	19.3	18.8	22.1	**4.81**	**1.78**
(i15) How important is <u>Wildland Fire and Aviation</u> to your current position?	9.4	10.3	13.4	16.3	14.0	11.4	25.2	**4.50**	**2.00**
(i17) How important is <u>Structural Fire</u> to your current position?	**20.4**	**14.9**	**16.5**	**12.7**	**12.3**	**8.7**	**14.6**	**3.66**	**2.07**

Mean Importance of Core Competencies

Core Competency	Mean Importance
Structural Fire	3.66
Wildland Fire and Aviation	4.5
Project/Program Management	4.81
Visitor Service and Public Use Management	5.32
Visitor and Employee Health and Safety	5.81
Emergency Management	5.88
Leadership	6.03
Law Enforcement	6.03
Resource Protection	6.17
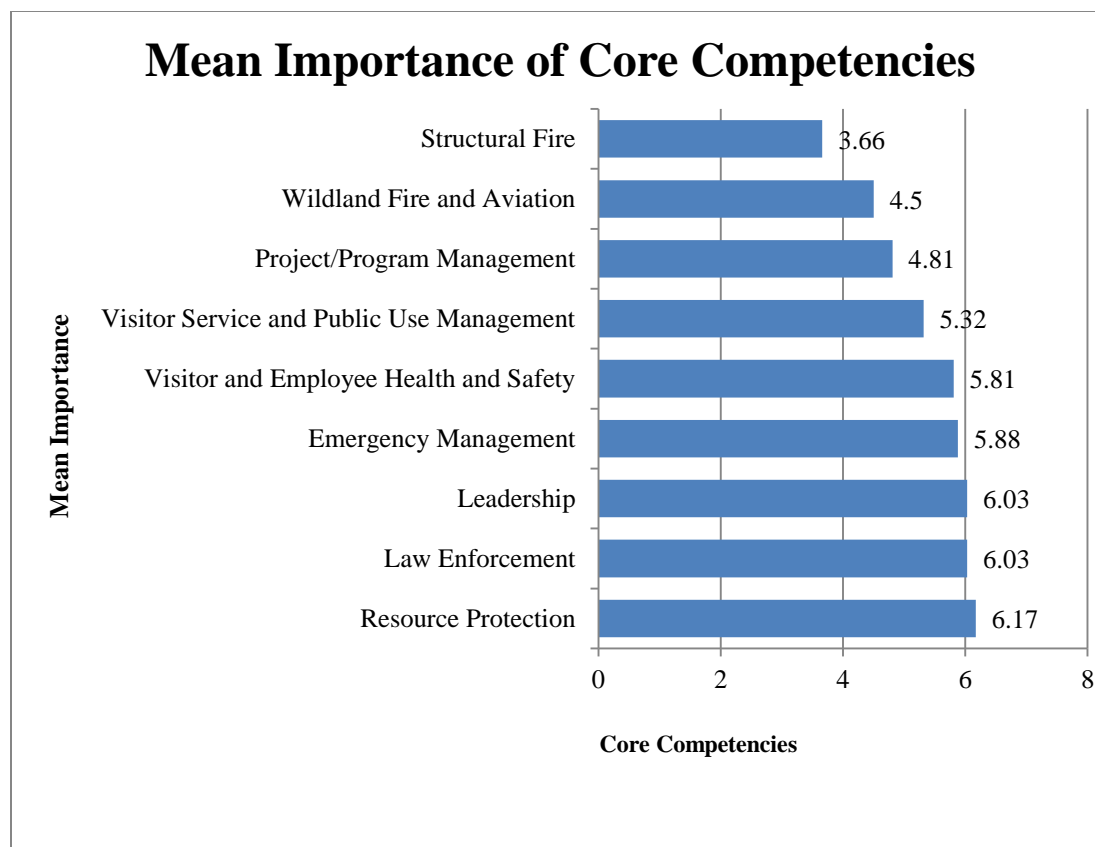
Figure 5. The nine essential core competencies rated by respondents on importance to their current position.

Perceptions of Importance Assigned to the 15 Sub-Core Competencies in Visitor and Resource Protection

In Table 4, the importance scores ascribed to the 15 sub-core competencies are exhibited. As one can see, Employee Safety, Leadership, Regulations, Visitor Safety, and Employee Health and Safety were all assigned mean importance values of more than 6 on the 7-point scale. Please note that Columns 6 and 7 are highlighted in yellow. Those respondents who rated a sub-core competency as a 6 or 7 (the two highest ratings), were automatically asked to respond to the more detailed battery of technical competency questions subsumed under each. If the rating was 5 or less, the "skip feature" moved the respondent to the next sub-core competency. The statistic in the right hand column is the number (n) of respondents responding to the subset of technical

competency questions. Additionally, the relative rankings of each of the 15 items are shown in Figure 6.

Table 4. Perceptions of Importance of Sub-Core Competencies Among Visitor and Resource Protection Employees (All Respondents)									
Visitor and Resource Protection Importance	**1**	**2**	**3**	**4**	**5**	**6**	**7**	***Mean*** *(7=Extremely Important, 1=Unimportant)*	***Number of Responses*** *(n)*
(i19) How important is <u>Natural and Cultural Resource Protection</u> to your current position?	1.0	3.8	5.7	8.7	16.5	21.6	42.6	5.71	**684**
(i34) How important is <u>Backcountry Management</u> to your current position?	14.3	10.5	10.5	14.4	16.4	13.1	20.8	4.31	**297**
(i53) How important is <u>Incident Management</u> to your current position?	1.8	1.9	4.7	7.4	15.1	19.7	49.5	5.89	**664**
(i57) How important is <u>Emergency Medical Services (EMS)</u> to your current position?	5.7	9.5	10.0	12.7	15.4	17.3	29.5	4.92	**425**
(i63) How important is <u>Search and Rescue (SAR)</u> to your current position?	8.3	10.0	10.7	13.3	18.0	14.0	25.7	4.68	**354**
(i69) How important is <u>Emergency Communications and Dispatching</u> to your current position?	3.0	4.0	3.7	8.1	11.4	16.5	53.3	5.83	**644**
(i73) How important is <u>Public Health</u> to your current position?	7.0	8.5	12.1	16.5	16.9	16.5	22.5	4.67	**350**
(i77) How important is <u>Visitor Safety</u> to your current position?	1.3	2.1	3.0	5.5	12.6	19.9	55.6	6.08	**698**
(i86) How important is <u>Employee Safety</u> to your current position?	0.4	1.5	2.2	4.3	9.9	12.8	68.9	6.36	**755**
(i92) How important is <u>Employee Health and Wellness</u> to your current position?	0.9	2.1	4.1	7.6	12.1	20.1	53.1	6.01	**663**
(i96) How important is <u>Leadership</u> to your current position?	2.0	2.4	2.4	5.8	9.4	17.0	61.1	6.14	**716**
(i105) How important is <u>Special Park Use Management</u> to your current position?	9.1	7.1	10.1	16.8	19.1	18.9	18.8	4.62	**323**
(i111) How important are <u>NPS Regulations</u> to your current position?	1.4	1.5	3.5	6.0	11.3	19.2	57.1	6.10	**669**
(i114) How important is <u>Project Management</u> to your current position?	10.6	9.6	11.1	18.8	18.8	14.6	16.5	4.35	**268**
(i122) How important is <u>Use and Management of Technology</u> to your current position?	**5.7**	**6.1**	**8.9**	**15.2**	**23.0**	**20.4**	**20.7**	**4.88**	**356**

Mean Importance of Sub-Core Competencies

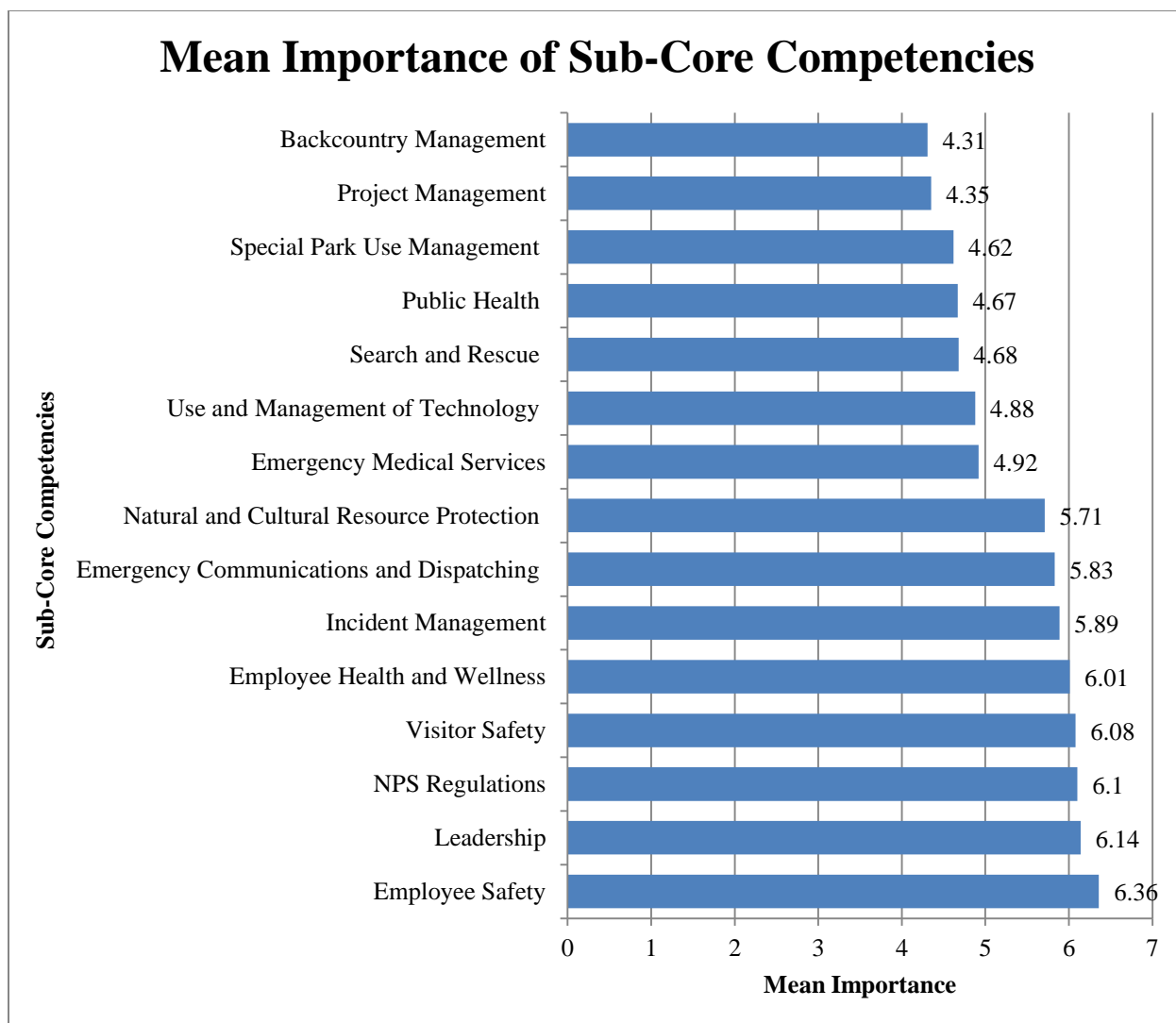| Sub-Core Competency	Mean Importance
Backcountry Management	4.31
Project Management	4.35
Special Park Use Management	4.62
Public Health	4.67
Search and Rescue	4.68
Use and Management of Technology	4.88
Emergency Medical Services	4.92
Natural and Cultural Resource Protection	5.71
Emergency Communications and Dispatching	5.83
Incident Management	5.89
Employee Health and Wellness	6.01
Visitor Safety	6.08
NPS Regulations	6.1
Leadership	6.14
Employee Safety	6.36

Figure 6. The fifteen sub-core competencies rated by respondents on importance to their current position.

Even though significant understanding of needed training can be obtained by analyzing the gap scores of each sub-core competency group, it is instructive to compare the significance of gap scores across all 15 sub-core competency groups.

As you can see from the data presented in Table 5, the overall means for importance, preparedness and gaps are compared. Overwhelmingly, respondents indicated the Use and Management of Technology had the largest gap (-2.15). This group of competencies produced a moderately high score on importance (5.75), but also the lowest score of all when considering preparation to perform these competencies (3.59). The gap score was 0.67 points higher than the

next group of competencies. Public Health, Project Management, Backcountry Management, Natural and Cultural Resource Protection, Employee Health and Wellness, and Special Park Use Management also produced high overall gap scores.

However, it is important to keep in mind that each sub-core competency potentially had a different portion of the VRP population respond to the set of questions. If a person did not rate the importance of a sub-core competency highly (6 or 7 on the 7-pt scale), they were automatically skipped to the next battery of questions without being asked about the technical competencies under that sub-core group. The number of respondents for each group are shown parenthetically in Table 4 (see page 14).

Table 5. Comparison of Preparation/Importance Gaps Across all Visitor and Resource Protection Sub Core Competencies				
Competencies*	**Mean Importance$_1$**	**Mean Preparation$_2$**	**Mean P-I Gap**	**Standard Deviation**
(g19) Natural and Cultural Resource Protection (n = 684)	5.84	4.45	-1.39	**1.60**
(g34) Backcountry Management (n = 297)	5.84	4.44	-1.41	**1.64**
(g53) Incident Management (n = 664)	6.33	5.31	-1.03	**1.39**
(g57) Emergency Medical Services (EMS) (n = 425)	6.58	5.81	-0.76	**1.29**
(g63) Search and Rescue (SAR) (n = 354)	6.58	5.52	-1.04	**1.39**
(g69) Emergency Communications and Dispatching (n = 644)	6.13	5.48	-0.66	**1.55**
(g73) Public Health (n = 350)	6.24	4.76	-1.48	**1.63**
(g77) Visitor Safety (n = 698)	5.92	4.75	-1.18	**1.60**
(g86) Employee Safety (n = 755)	6.32	5.45	-0.87	**1.29**
(g92) Employee Health and Wellness (n = 663)	6.18	4.83	-1.34	**1.71**
(g96) Leadership (n = 716)	6.54	5.55	-0.99	**1.32**
(g105) Special Park Use Management (n = 323)	6.08	4.82	-1.26	**1.51**
(g111) NPS Regulations (n = 669)	6.39	5.69	-0.71	**1.18**
(g114) Project Management (n = 268)	6.04	4.58	-1.47	**1.62**
(g122) Use and Management of Technology (n = 356)	**5.75**	**3.59**	**-2.15**	**1.79**

Comparison of Preparation/Important Gaps across all Sub-Core Competency Groups
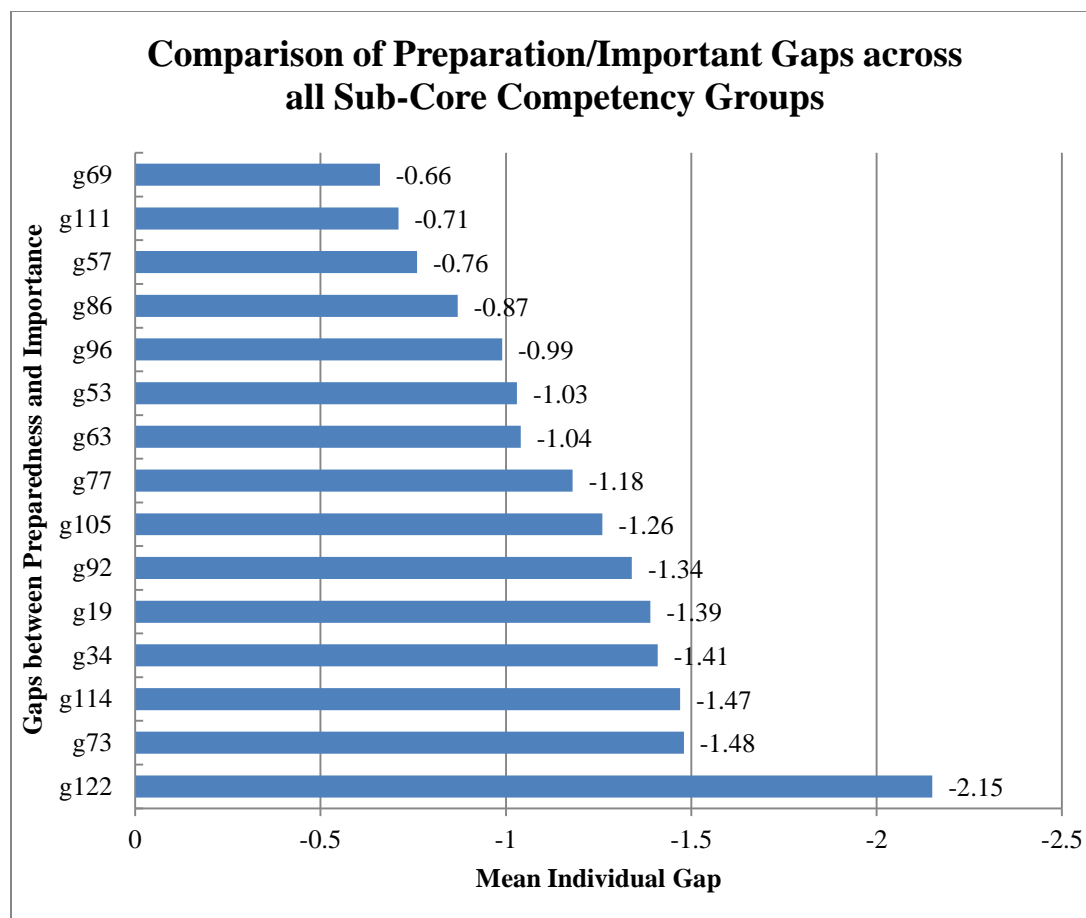
Figure 7. The **g**aps between preparedness and importance for all sub-core competencies.

(g122)   Use and Management of Technology

(g73)   Public Health

(g114)   Project Management

(g34)   Backcountry Management

(g19)   Natural and Cultural Resource Protection

(g92)   Employee Health and Wellness

(g105)   Special Park Use Management

(g77)   Visitor Safety

(g63)   Search and Rescue (SAR)

(g53)   Incident Management

(g96)   Leadership

(g86)   Employee Safety

(g57)   Emergency Medical Services (EMS)

(g111)   NPS Regulations

(g69)   Emergency Communications and Dispatching

Conclusions

The following conclusions were drawn from the data analyzed in this study that have implications for the employee development strategy employed by the Stephen T. Mather Training Center within the division of the NPS Learning and Development and in collaboration with the Office of the Associate Director for Visitor and Resource Protection.

The Visitor and Resource Protection Workforce

- The VRP workforce appears to be well-educated. Over 90% of the employee population reported holding at least an Associate's degree; over 80% of the respondents reported holding a Bachelor's degree or higher.

- The ages of the employee population is fairly even in its distribution across the spectrum of age cohorts. No cohort is disproportionately large, which can be particularly troubling when this occurs in older cohorts, indicating a pending exodus of employees due to retirements. This is not the case in Visitor and Resource Protection.

- Respondents were most typically GS/GL-9's working within the 0025 position series.

- Respondents had worked for the National Park Service for slightly more than 14 years. Almost all of that time was in a VRP position (mean = 13.7 years). They had worked in their current positions for almost 6.5 years.

- When asked to self-identify the level of performance at which they currently operate, exactly half (50%) indicated they were performing at the Expert level.

Core Competencies

- Of the nine (9) core competencies posed to respondents, five (5) were clearly important to most of the respondents. Resource Protection, Law Enforcement, Leadership, Emergency Management, and Visitor and Employee Health and Safety all produced fairly high importance scores (5.8-6.2). These groups of competencies were indeed core to the job of visitor and resource protection.

- The remaining four (4) core competencies appeared to be of importance to employees, but could be viewed as being more specialized. In other words, Visitor Service and Public Use Management, Project/Program Management, Wildland Fire and Aviation, and Structural Fire were thought to be of lesser importance overall, than the previous five core competencies (3.7-5.3).

Sub-Core Competencies

- A similar pattern was observed in the importance assigned to the 15 sub-core competencies. Eight (8) sub-core competencies appeared to be substantially more important to respondents than did the remaining seven (7). Employee Safety, Leadership, NPS Regulations, Visitor Safety, Employee Health and Wellness, Incident Management, Emergency Communications/Dispatching, and Natural and Cultural Resource Protection all produced importance scores above 5.7 on the 7-point scale. Sixty percent (60%) of all respondents rated the importance of these eight (8) sub-core competencies as either a 6 or a 7 on the 7-point scale. Fewer respondents (39% or fewer) rated the remaining sub-core groups that high in importance.

- When the gap scores were compared across all 15 sub-core groups of competencies, the largest gap, by far, was the gap associated with the Use and Management of Technology. It produced an overall gap score of -2.15. Seven (7) other groups produced gap scores of -1.48 to -1.18. These scores were associated with Public Health, Project Management, Backcountry Management, Natural and Cultural Resource Protection, Employee Health and Wellness, Special Park Use Management, and Visitor Safety.

- The two aforementioned conclusions may appear to be in conflict with each other. Yes, there appears to be a clear demarcation among the sub-core competency groupings regarding what is important and, therefore, core to the majority of all VRP positions. However, there are clearly large "training "gaps" among the more "specialized" sub-core groupings that are important to large numbers of employees.

- To illustrate, the largest "gap" among the sub-core competency groups was found in the Use and Management of Technology -- a gap of -2.15; however, this sub-core competency group was deemed to be of high importance to fewer than one-third (32.6%) of the survey population. But, when projected to the total population of VRP employees, this indicates that 1,027 employees need training in this area.

- As a result, caution must be used when interpreting the results of this study. It is important to understand that data from each of the sub-core groups of technical competencies was provided by a different sub-population of respondents. Therefore, readers of this report should avoid the tendency to compare groups based solely on the head-to-head statistics. There may indeed be areas of training that are important to smaller numbers of employees that could potentially be more important strategic investments of training resources.

- Below are the findings from within each of the Sub-Core Competency Groups displaying the proportion of the study population that rated that group has highly important to their current jobs, and the technical competencies exhibiting the largest gaps.

Largest Gaps in Individual Sub-Core Competency Groups

Natural and Cultural Resource Protection

*Slightly more than **6 out of every 10 VRP employees** (**62.4%, n = 684**) rated this sub-core competency group as highly important to their current jobs.*

The five (5) largest gap scores in this group were:

- (g27) The ability to apply specialized resource crime scene investigation techniques (e.g. ARPA, field forensics, evidence preservation, mapping/diagramming, etc.)

- (g30) The ability to evaluate public use patterns and behaviors and to modify or establish regulation and policy to mitigate resource impacts

- (g29) Knowledge of and ability to incorporate current inventory and monitoring and other research into protection strategies for threatened park resources

- (g25) The ability to apply specialized enforcement techniques to effectively identify, apprehend, and prosecute resource violators and to prevent further degradation

- (g32) The ability to evaluate research and science project proposals aimed at better understanding threats to resources at risk from, at least in part, illegal and visitor use behaviors

Backcountry Management

*Slightly fewer than **3 out of every 10 VRP employees** (**27.2%, n =297**) rated this sub-core competency group as highly important to their current jobs.*

The five (5) largest gap scores in this group were:

- (g40) The ability to exhibit knowledge of future trends in backcountry uses, including an understanding of how changes in society and technology, carrying capacities and management actions may influence the backcountry experience

- (g42) The ability to analyze and assess proposed legislation and regulations that would affect long-term backcountry management and benefits

- (g46) The ability to compile, analyze, and use natural and cultural resource data when making short and long term program planning recommendations

- (g38) The ability to inventory, monitor and manage visitor use and impacts affecting natural and cultural resources in backcountry areas

- (g41) The ability to develop and interpret backcountry policy and implementation strategies

Incident Management

Slightly more than **6 out of every 10 VRP employees** *(60.8%, n =664) rated this sub-core competency group as highly important to their current jobs.*

The largest gap scores in this group were:

- (g56) The ability to identify and address key issues associated with incidents at the local, regional, and national levels including situations requiring urgent action

- (g55) Knowledge of incident planning needs for use in preparedness, resources required, and knowledge of post incident evaluations to apply lessons learned

- (g54) Knowledge of the Incident Command System (ICS) and the Department of Interior (DOI) incident qualifications system and their application to all-hazard incidents

Only one of these technical competencies, however, produced a gap of more than -1.0.

Emergency Medical Services (EMS)

Slightly fewer than **4 out of every 10 VRP employees** *(38.9%, n =425) rated this sub-core competency group as highly important to their current jobs.*

The largest gaps scores in this group were:

- (g62) The ability to coordinate a park unit EMS program including maintaining EMS equipment and staff in a state of readiness and where applicable work with external providers

- (g59) The ability to track and report EMS activities and documentation of patient care in accordance with the standards of the National Park System

Search and Rescue

Slightly more than **3 out of every 10 VRP employees** *(32.4%, n =354) rated this sub-core competency group as highly important to their current jobs.*

The largest gaps scores in this group were:

- (g68) The ability to effectively coordinate a Search and Rescue (SAR) program including team and equipment readiness, reporting, and continuing education

- (g66) The ability to manage a search incident for a missing person

- (g67) The ability to apply effective risk management techniques in Search and Rescue (SAR) operations

Emergency Communications and Dispatching

*Slightly fewer than **6 out of every 10 VRP employees** (58.9%, n =644) rated this sub-core competency group as highly important to their current jobs.*

The only gap score in this group that produced a gap of 1.0 or more was:

- (g72) The ability to manage media contacts during an incident within established guidelines, and adapt knowledge to unique situations

Public Health

*Slightly more than **3 out of every 10 VRP employees** (32.0%, n =350) rated this sub-core competency group as highly important to their current jobs.*

The largest gap scores in this group were:

- (g76) The ability to manage security parameters for vital public utility systems where applicable

- (g75) The ability to collaborate with staff resources, including NPS Office of Public Health (OPH) and other agencies, to respond to public health issues

- (g74) The ability to recognize and report potential public health hazards or problems

Visitor Safety

*More than **6 out of every 10 VRP employees** (63.9%, n =698) rated this sub-core competency group as highly important to their current jobs.*

The five largest gap scores in this group were:

- (g82) The ability to conduct root cause analysis and apply lessons learned to a safety program

- (g84) The ability to investigate or assist in the investigation of a serious visitor incident or near misses

- (g85) The ability to integrate safety, health, and wellness into operational programs

- (g81) The ability to collect and manage visitor safety data

- (g83) The ability to collaborate with internal and external safety specialists on a range of visitor safety issues

Employee Safety

*Almost **7 out of every 10 VRP employees** (**69.1%, n =755**) rated this sub-core competency group as highly important to their current jobs.*

The largest gap scores in this group were:

- (g90) The ability to apply OSHA requirements

- (g87) Knowledge of employee roles and responsibilities for adherence to occupational health and safety policies

Employee Health and Wellness

*Slightly more than **6 out of every 10 VRP employees** (**60.7%, n =663**) rated this sub-core competency group as highly important to their current jobs.*

The largest gap scores in this group were:

- (g95) The ability to design, implement, and evaluate a health and wellness program

- (g94) The ability to integrate best practices and lessons learned into park programs

- (g93) The ability to apply NPS health, wellness, and fitness programs

Leadership

*More than **6.5 out of every 10 VRP employees** (65.6%, n =716) rated this sub-core competency group as highly important to their current jobs.*

The five largest gaps in this group were:

- (g104) Skills in developing the ability of others to perform and contribute to the organization by providing ongoing feedback and opportunities to learn through formal and informal methods

- (g103) The ability to encourage creative tension and differences of opinions. The ability to anticipate and take steps to prevent counter-productive confrontations. The ability to manage and resolve conflicts and disagreements in a constructive manner

- (g99) The ability to inspire and foster team commitment, spirit, pride, and trust. The ability to facilitate cooperation and motivate team members to accomplish group goals

- (g101) The ability to hold self and others accountable for measurable high-quality, timely, and cost effective results. Have competence determining objectives, setting priorities, and delegating work (if applicable). The ability to accept responsibility for mistakes and comply with established control systems and rules

- (g100) The ability to understand and appropriately apply principles, procedures, requirements, regulations, and policies related to specialized expertise

Special Park Use Management

*Slightly fewer than **3 out of every 10 VRP employees** (29.6%, n =323) rated this sub-core competency group as highly important to their current jobs.*

The five largest gaps in this group were:

- (g110) The ability to manage special park use program, including developing park permit process, cost recovery procedures, and guidelines for appropriate use

- (g109) Knowledge of other NPS permit programs (e.g. RPRS, CUAs, NAGPRA)

- (g106) Knowledge of special park uses as defined and required by law, regulation, and policy

- (g107) Knowledge of special park use permitting process

- (g108) The ability to monitor permitted activities for compliance with permit terms and conditions

NPS Regulations

*Slightly more than **6 out of every 10 VRP employees** (**61.3%, n =669**) rated this sub-core competency group as highly important to their current jobs.*

The largest gap scores in this group were:

- (g113) Knowledge of the hierarchy of laws, regulations, policies, and rulemaking process

- (g112) Knowledge of types of jurisdiction and NPS enforcement responsibility

However, please note that neither gap score was very large, relative to others.

Project Management

*Only **2.5 out of every 10 VRP employees** (**24.5%, n =268**) rated this sub-core competency group as highly important to their current jobs.*

The largest gap scores for this group were:

- (g115) The ability to demonstrate knowledge of NPS best business management processes and practices

- (g121) Knowledge of NPS planning processes, including compliance requirements

- (g116) Knowledge of existing agreements relevant to a park unit and their effect on project/program management

- (g119) The ability to identify obstacles including environmental, fiscal and liability issues that impact project management and completion

- (g117) The ability to draft, review, and as appropriate, finalize project and/or program proposals for submission

Use and Management of Technology

*Slightly more than **3 out of every 10 VRP employees** (32.6%, n =356) rated this sub-core competency group as highly important to their current jobs.*

The largest gap scores for this group were:

- (g126) The ability to comply with the Administrative Procedures Act

- (g124) The ability to insure that project actions comply with all legal requirements

- (g123) Knowledge of technology based systems utilized by VRP (e.g. project definition and funding systems like FMSS, PMIS, and FBMS etc.)

- (g125) The ability to partner with technology professionals to ensure maximum efficiency in support of programs, processes, and services

All technical competencies under this sub-core competency group were significantly large (> -2.0).

Summary

In conclusion, employees assigned to Visitor and Resource Protection have tremendous responsibilities and serve in a multitude of roles from law enforcement to resource protection to public health to project/program management. While the more obvious areas of competency, such as visitor safety, law enforcement, resource protection, and employee health and wellness were indeed deemed very important to respondents' current positions, other areas were designated as having higher education and training gaps. For example, the Use and Management of Technology produced the largest overall gap score (-2.15) even though fewer employees (n=356) rated this area as important, relative to the groups of competencies described above (e.g., Employee Safety had 755 respondents rate it as highly important). Therefore, care should be taken to temper the view of importance assigned to a group of competencies with the diagnostic assessment of preparedness-importance training gaps, which have shown significant needs for training and education, even though the number of employees needing them may be smaller. The Use and Management of Technology, Public Health, Project Management, Backcountry Management, Natural and Cultural Resource Protection, Employee Health and Wellness, Special Park Use Management, Visitor Safety, Search and Rescue, Incident Management, and Leadership all produced gap scores of -1.0 or higher. These are areas that require future attention as employee development strategies are developed.

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